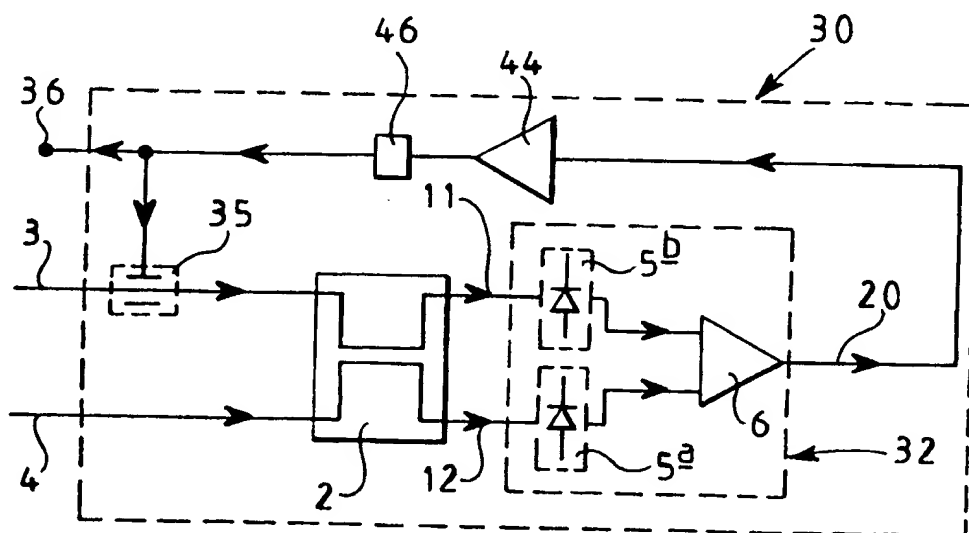




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(54) Title: OPTICAL PHASE DETECTOR



## (57) Abstract

An optical phase detector comprising coupling means for receiving two optical inputs and for producing two combined optical outputs, means for detecting the two combined optical outputs and producing two corresponding electrical signals, and means for measuring the difference between the two electrical signals and generating an output difference signal which may be used to provide an indication of the phase difference between the two optical inputs. The optical phase detector comprises a voltage-tuneable electro-optic phase modulator for modulating the phase of an optical input to the optical phase detector to provide a linearised response. In this arrangement the output difference signal may be maintained at a constant level by varying the voltage applied to the electro-optic phase modulator, the applied voltage providing an indication of the phase difference between the two optical inputs. Applications include frequency discriminators, various sensors, and a laser stabilisation apparatus.